Release notes for ENDF/B Development n-048_Cd_113 evaluation

April 26, 2017

- **checkr** Warnings:

    1. A previous error halted parsing of the current section
       MAT=4846, MF= 1, MT=451 (1): Parsing stopped

       ```
       ERROR(S) FOUND IN MAT=4846, MF= 1, MT=451
           SECTION CANNOT BE CHECKED FROM SEQUENCE NUMBER     195 TO     264
       ```

- **checkr** Errors:

    1. A variable is outside the allowed ENDF range
       MAT=4846, MF= 1, MT=451 (0): Variable range

       ```
       ERROR(S) FOUND IN MAT=4846, MF= 1, MT=451
           MOD =     1 OUT OF RANGE    0 -     0          RECORD NUMBER     195
       ```

    2. Missing a section in directory so your directory is messed up. This error will break everything else
       MAT=4846, MF= 2, MT=151 (0): Directory (b)

       ```
       ERROR(S) FOUND IN MAT=4846, MF= 2, MT=151
           SECTION  2/151 NOT IN DIRECTORY              RECORD NUMBER     266
       ```

    3. Missing a section in directory so your directory is messed up. This error will break everything else
       MAT=4846, MF= 3, MT= 1 (0): Directory (b)

       ```
       ERROR(S) FOUND IN MAT=4846, MF= 3, MT=  1
           SECTION  3/  1 NOT IN DIRECTORY              RECORD NUMBER     684
       ```

    4. Missing a section in directory so your directory is messed up. This error will break everything else
       MAT=4846, MF= 3, MT= 2 (0): Directory (b)

       ```
       ERROR(S) FOUND IN MAT=4846, MF= 3, MT=  2
           SECTION  3/  2 NOT IN DIRECTORY              RECORD NUMBER     719
       ```

    5. Missing a section in directory so your directory is messed up. This error will break everything else
       MAT=4846, MF= 3, MT= 3 (0): Directory (b)

       ```
       ERROR(S) FOUND IN MAT=4846, MF= 3, MT=  3
           SECTION  3/  3 NOT IN DIRECTORY              RECORD NUMBER     754
       ```

    6. Missing a section in directory so your directory is messed up. This error will break everything else
       MAT=4846, MF= 3, MT= 4 (0): Directory (b)

       ```
       ERROR(S) FOUND IN MAT=4846, MF= 3, MT=  4
           SECTION  3/  4 NOT IN DIRECTORY              RECORD NUMBER     789
       ```

    7. Missing a section in directory so your directory is messed up. This error will break everything else
       MAT=4846, MF= 3, MT= 16 (0): Directory (b)

```
        ERROR(S) FOUND IN MAT=4846, MF= 3, MT= 16
           SECTION  3/ 16 NOT IN DIRECTORY                RECORD NUMBER    823
```

8. Missing a section in directory so your directory is messed up. This error will break everything else
   MAT=4846, MF= 3, MT= 17 (0): Directory (b)

```
        ERROR(S) FOUND IN MAT=4846, MF= 3, MT= 17
           SECTION  3/ 17 NOT IN DIRECTORY                RECORD NUMBER    843
```

9. Missing a section in directory so your directory is messed up. This error will break everything else
   MAT=4846, MF= 3, MT= 22 (0): Directory (b)

```
        ERROR(S) FOUND IN MAT=4846, MF= 3, MT= 22
           SECTION  3/ 22 NOT IN DIRECTORY                RECORD NUMBER    850
```

10. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=4846, MF= 3, MT= 28 (0): Directory (b)

```
        ERROR(S) FOUND IN MAT=4846, MF= 3, MT= 28
           SECTION  3/ 28 NOT IN DIRECTORY                RECORD NUMBER    857
```

11. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=4846, MF= 3, MT= 51 (0): Directory (b)

```
        ERROR(S) FOUND IN MAT=4846, MF= 3, MT= 51
           SECTION  3/ 51 NOT IN DIRECTORY                RECORD NUMBER    865
```

12. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=4846, MF= 3, MT= 52 (0): Directory (b)

```
        ERROR(S) FOUND IN MAT=4846, MF= 3, MT= 52
           SECTION  3/ 52 NOT IN DIRECTORY                RECORD NUMBER    899
```

13. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=4846, MF= 3, MT= 53 (0): Directory (b)

```
        ERROR(S) FOUND IN MAT=4846, MF= 3, MT= 53
           SECTION  3/ 53 NOT IN DIRECTORY                RECORD NUMBER    933
```

14. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=4846, MF= 3, MT= 54 (0): Directory (b)

```
        ERROR(S) FOUND IN MAT=4846, MF= 3, MT= 54
           SECTION  3/ 54 NOT IN DIRECTORY                RECORD NUMBER    966
```

15. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=4846, MF= 3, MT= 55 (0): Directory (b)

```
         ERROR(S) FOUND IN MAT=4846, MF= 3, MT= 55
            SECTION  3/ 55 NOT IN DIRECTORY                RECORD NUMBER     999
```

16. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=4846, MF= 3, MT= 56 (0): Directory (b)

```
         ERROR(S) FOUND IN MAT=4846, MF= 3, MT= 56
            SECTION  3/ 56 NOT IN DIRECTORY                RECORD NUMBER    1032
```

17. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=4846, MF= 3, MT= 57 (0): Directory (b)

```
         ERROR(S) FOUND IN MAT=4846, MF= 3, MT= 57
            SECTION  3/ 57 NOT IN DIRECTORY                RECORD NUMBER    1064
```

18. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=4846, MF= 3, MT= 58 (0): Directory (b)

```
         ERROR(S) FOUND IN MAT=4846, MF= 3, MT= 58
            SECTION  3/ 58 NOT IN DIRECTORY                RECORD NUMBER    1096
```

19. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=4846, MF= 3, MT= 59 (0): Directory (b)

```
         ERROR(S) FOUND IN MAT=4846, MF= 3, MT= 59
            SECTION  3/ 59 NOT IN DIRECTORY                RECORD NUMBER    1128
```

20. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=4846, MF= 3, MT= 60 (0): Directory (b)

```
         ERROR(S) FOUND IN MAT=4846, MF= 3, MT= 60
            SECTION  3/ 60 NOT IN DIRECTORY                RECORD NUMBER    1159
```

21. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=4846, MF= 3, MT= 61 (0): Directory (b)

```
         ERROR(S) FOUND IN MAT=4846, MF= 3, MT= 61
            SECTION  3/ 61 NOT IN DIRECTORY                RECORD NUMBER    1190
```

22. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=4846, MF= 3, MT= 62 (0): Directory (b)

```
         ERROR(S) FOUND IN MAT=4846, MF= 3, MT= 62
            SECTION  3/ 62 NOT IN DIRECTORY                RECORD NUMBER    1220
```

23. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=4846, MF= 3, MT= 63 (0): Directory (b)

```
          ERROR(S) FOUND IN MAT=4846, MF= 3, MT= 63
             SECTION  3/ 63 NOT IN DIRECTORY                RECORD NUMBER    1250
```

24. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=4846, MF= 3, MT= 64 (0): Directory (b)

```
          ERROR(S) FOUND IN MAT=4846, MF= 3, MT= 64
             SECTION  3/ 64 NOT IN DIRECTORY                RECORD NUMBER    1280
```

25. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=4846, MF= 3, MT= 65 (0): Directory (b)

```
          ERROR(S) FOUND IN MAT=4846, MF= 3, MT= 65
             SECTION  3/ 65 NOT IN DIRECTORY                RECORD NUMBER    1309
```

26. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=4846, MF= 3, MT= 66 (0): Directory (b)

```
          ERROR(S) FOUND IN MAT=4846, MF= 3, MT= 66
             SECTION  3/ 66 NOT IN DIRECTORY                RECORD NUMBER    1338
```

27. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=4846, MF= 3, MT= 67 (0): Directory (b)

```
          ERROR(S) FOUND IN MAT=4846, MF= 3, MT= 67
             SECTION  3/ 67 NOT IN DIRECTORY                RECORD NUMBER    1367
```

28. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=4846, MF= 3, MT= 68 (0): Directory (b)

```
          ERROR(S) FOUND IN MAT=4846, MF= 3, MT= 68
             SECTION  3/ 68 NOT IN DIRECTORY                RECORD NUMBER    1395
```

29. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=4846, MF= 3, MT= 69 (0): Directory (b)

```
          ERROR(S) FOUND IN MAT=4846, MF= 3, MT= 69
             SECTION  3/ 69 NOT IN DIRECTORY                RECORD NUMBER    1423
```

30. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=4846, MF= 3, MT= 70 (0): Directory (b)

```
          ERROR(S) FOUND IN MAT=4846, MF= 3, MT= 70
             SECTION  3/ 70 NOT IN DIRECTORY                RECORD NUMBER    1451
```

31. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=4846, MF= 3, MT= 71 (0): Directory (b)

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```
ERROR(S) FOUND IN MAT=4846, MF= 3, MT= 71
      SECTION  3/ 71 NOT IN DIRECTORY                    RECORD NUMBER    1478
```

32. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=4846, MF= 3, MT= 91 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=4846, MF= 3, MT= 91
      SECTION  3/ 91 NOT IN DIRECTORY                    RECORD NUMBER    1505
```

33. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=4846, MF= 3, MT=102 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=4846, MF= 3, MT=102
      SECTION  3/102 NOT IN DIRECTORY                    RECORD NUMBER    1530
```

34. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=4846, MF= 3, MT=103 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=4846, MF= 3, MT=103
      SECTION  3/103 NOT IN DIRECTORY                    RECORD NUMBER    1565
```

35. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=4846, MF= 3, MT=104 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=4846, MF= 3, MT=104
      SECTION  3/104 NOT IN DIRECTORY                    RECORD NUMBER    1588
```

36. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=4846, MF= 3, MT=105 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=4846, MF= 3, MT=105
      SECTION  3/105 NOT IN DIRECTORY                    RECORD NUMBER    1602
```

37. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=4846, MF= 3, MT=107 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=4846, MF= 3, MT=107
      SECTION  3/107 NOT IN DIRECTORY                    RECORD NUMBER    1615
```

38. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=4846, MF= 4, MT= 2 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=4846, MF= 4, MT=  2
      SECTION  4/  2 NOT IN DIRECTORY                    RECORD NUMBER    1641
```

39. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=4846, MF= 4, MT= 16 (0): Directory (b)

```
        ERROR(S) FOUND IN MAT=4846, MF= 4, MT= 16
           SECTION  4/ 16 NOT IN DIRECTORY                RECORD NUMBER    2054
```

40. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=4846, MF= 4, MT= 17 (0): Directory (b)

```
        ERROR(S) FOUND IN MAT=4846, MF= 4, MT= 17
           SECTION  4/ 17 NOT IN DIRECTORY                RECORD NUMBER    2151
```

41. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=4846, MF= 4, MT= 22 (0): Directory (b)

```
        ERROR(S) FOUND IN MAT=4846, MF= 4, MT= 22
           SECTION  4/ 22 NOT IN DIRECTORY                RECORD NUMBER    2174
```

42. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=4846, MF= 4, MT= 28 (0): Directory (b)

```
        ERROR(S) FOUND IN MAT=4846, MF= 4, MT= 28
           SECTION  4/ 28 NOT IN DIRECTORY                RECORD NUMBER    2197
```

43. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=4846, MF= 4, MT= 51 (0): Directory (b)

```
        ERROR(S) FOUND IN MAT=4846, MF= 4, MT= 51
           SECTION  4/ 51 NOT IN DIRECTORY                RECORD NUMBER    2226
```

44. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=4846, MF= 4, MT= 52 (0): Directory (b)

```
        ERROR(S) FOUND IN MAT=4846, MF= 4, MT= 52
           SECTION  4/ 52 NOT IN DIRECTORY                RECORD NUMBER    2409
```

45. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=4846, MF= 4, MT= 53 (0): Directory (b)

```
        ERROR(S) FOUND IN MAT=4846, MF= 4, MT= 53
           SECTION  4/ 53 NOT IN DIRECTORY                RECORD NUMBER    2823
```

46. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=4846, MF= 4, MT= 54 (0): Directory (b)

```
        ERROR(S) FOUND IN MAT=4846, MF= 4, MT= 54
           SECTION  4/ 54 NOT IN DIRECTORY                RECORD NUMBER    3244
```

47. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=4846, MF= 4, MT= 55 (0): Directory (b)

```
          ERROR(S) FOUND IN MAT=4846, MF= 4, MT= 55
            SECTION  4/ 55 NOT IN DIRECTORY                    RECORD NUMBER    3421
```

48. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=4846, MF= 4, MT= 56 (0): Directory (b)

```
          ERROR(S) FOUND IN MAT=4846, MF= 4, MT= 56
            SECTION  4/ 56 NOT IN DIRECTORY                    RECORD NUMBER    3596
```

49. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=4846, MF= 4, MT= 57 (0): Directory (b)

```
          ERROR(S) FOUND IN MAT=4846, MF= 4, MT= 57
            SECTION  4/ 57 NOT IN DIRECTORY                    RECORD NUMBER    3769
```

50. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=4846, MF= 4, MT= 58 (0): Directory (b)

```
          ERROR(S) FOUND IN MAT=4846, MF= 4, MT= 58
            SECTION  4/ 58 NOT IN DIRECTORY                    RECORD NUMBER    4168
```

51. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=4846, MF= 4, MT= 59 (0): Directory (b)

```
          ERROR(S) FOUND IN MAT=4846, MF= 4, MT= 59
            SECTION  4/ 59 NOT IN DIRECTORY                    RECORD NUMBER    4337
```

52. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=4846, MF= 4, MT= 60 (0): Directory (b)

```
          ERROR(S) FOUND IN MAT=4846, MF= 4, MT= 60
            SECTION  4/ 60 NOT IN DIRECTORY                    RECORD NUMBER    4723
```

53. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=4846, MF= 4, MT= 61 (0): Directory (b)

```
          ERROR(S) FOUND IN MAT=4846, MF= 4, MT= 61
            SECTION  4/ 61 NOT IN DIRECTORY                    RECORD NUMBER    5125
```

54. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=4846, MF= 4, MT= 62 (0): Directory (b)

```
          ERROR(S) FOUND IN MAT=4846, MF= 4, MT= 62
            SECTION  4/ 62 NOT IN DIRECTORY                    RECORD NUMBER    5286
```

55. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=4846, MF= 4, MT= 63 (0): Directory (b)

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```
ERROR(S) FOUND IN MAT=4846, MF= 4, MT= 63
    SECTION  4/ 63 NOT IN DIRECTORY                 RECORD NUMBER    5445
```

56. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=4846, MF= 4, MT= 64 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=4846, MF= 4, MT= 64
    SECTION  4/ 64 NOT IN DIRECTORY                 RECORD NUMBER    5602
```

57. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=4846, MF= 4, MT= 65 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=4846, MF= 4, MT= 65
    SECTION  4/ 65 NOT IN DIRECTORY                 RECORD NUMBER    5757
```

58. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=4846, MF= 4, MT= 66 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=4846, MF= 4, MT= 66
    SECTION  4/ 66 NOT IN DIRECTORY                 RECORD NUMBER    6129
```

59. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=4846, MF= 4, MT= 67 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=4846, MF= 4, MT= 67
    SECTION  4/ 67 NOT IN DIRECTORY                 RECORD NUMBER    6496
```

60. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=4846, MF= 4, MT= 68 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=4846, MF= 4, MT= 68
    SECTION  4/ 68 NOT IN DIRECTORY                 RECORD NUMBER    6645
```

61. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=4846, MF= 4, MT= 69 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=4846, MF= 4, MT= 69
    SECTION  4/ 69 NOT IN DIRECTORY                 RECORD NUMBER    7002
```

62. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=4846, MF= 4, MT= 70 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=4846, MF= 4, MT= 70
    SECTION  4/ 70 NOT IN DIRECTORY                 RECORD NUMBER    7147
```

63. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=4846, MF= 4, MT= 71 (0): Directory (b)

```
      ERROR(S) FOUND IN MAT=4846, MF= 4, MT= 71
         SECTION  4/ 71 NOT IN DIRECTORY                  RECORD NUMBER    7494
```

64. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=4846, MF= 4, MT= 91 (0): Directory (b)

```
      ERROR(S) FOUND IN MAT=4846, MF= 4, MT= 91
         SECTION  4/ 91 NOT IN DIRECTORY                  RECORD NUMBER    7635
```

65. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=4846, MF= 5, MT= 16 (0): Directory (b)

```
      ERROR(S) FOUND IN MAT=4846, MF= 5, MT= 16
         SECTION  5/ 16 NOT IN DIRECTORY                  RECORD NUMBER    7767
```

66. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=4846, MF= 5, MT= 17 (0): Directory (b)

```
      ERROR(S) FOUND IN MAT=4846, MF= 5, MT= 17
         SECTION  5/ 17 NOT IN DIRECTORY                  RECORD NUMBER    8227
```

67. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=4846, MF= 5, MT= 22 (0): Directory (b)

```
      ERROR(S) FOUND IN MAT=4846, MF= 5, MT= 22
         SECTION  5/ 22 NOT IN DIRECTORY                  RECORD NUMBER    8317
```

68. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=4846, MF= 5, MT= 28 (0): Directory (b)

```
      ERROR(S) FOUND IN MAT=4846, MF= 5, MT= 28
         SECTION  5/ 28 NOT IN DIRECTORY                  RECORD NUMBER    8400
```

69. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=4846, MF= 5, MT= 91 (0): Directory (b)

```
      ERROR(S) FOUND IN MAT=4846, MF= 5, MT= 91
         SECTION  5/ 91 NOT IN DIRECTORY                  RECORD NUMBER    8513
```

- **psyche** Warnings:

  1. Strength function in URR not in agreement with PSYCHE's expectations
  FILE 2 / SECTION 151 / ISOTOPE MASS = 113. L = 1 / STRENGTH FUNCTION IS 9.45016E-05 / STRENGTH FUNCTION 9.45016E-05 / LIES OUTSIDE LIMITS 1.00000E-04 TO 8.00000E-04 (0): URR str. ftn.

```
FILE  2
   SECTION 151
       ISOTOPE MASS = 113. L =  1
                 STRENGTH FUNCTION IS  9.45016E-05
                           STRENGTH FUNCTION 9.45016E-05
... [1 more lines]
```

2. Level density in URR not in agreement with PSYCHE's expectations
   FILE 2 / SECTION 151 / ENERGY = 5.00000E+03. STRENGTH FUNCTION IS 4.70000E-05 / ENERGY = 5.00000E+03. STRENGTH FUNCTION IS 4.70000E-05 / DENSITY 3.43791E+01 SHOULD BE 2.89414E+01 (0): URR dens. (a)

```
FILE  2
   SECTION 151
        ENERGY =  5.00000E+03. STRENGTH FUNCTION IS  4.70000E-05
               ENERGY =  5.00000E+03. STRENGTH FUNCTION IS  4.70000E-05
                            DENSITY  3.43791E+01 SHOULD BE  2.89414E+01
```

3. Level density in URR not in agreement with PSYCHE's expectations
   FILE 2 / SECTION 151 / ENERGY = 5.50000E+03. STRENGTH FUNCTION IS 4.70000E-05 / DENSITY 3.43551E+01 SHOULD BE 2.89212E+01 (0): URR dens. (a)

```
FILE  2
   SECTION 151
           ENERGY =  5.50000E+03. STRENGTH FUNCTION IS  4.70000E-05
                         DENSITY  3.43551E+01 SHOULD BE  2.89212E+01
```

4. Level density in URR not in agreement with PSYCHE's expectations
   FILE 2 / SECTION 151 / ENERGY = 6.00000E+03. STRENGTH FUNCTION IS 4.70000E-05 / DENSITY 3.43311E+01 SHOULD BE 2.89011E+01 (0): URR dens. (a)

```
FILE  2
   SECTION 151
           ENERGY =  6.00000E+03. STRENGTH FUNCTION IS  4.70000E-05
                         DENSITY  3.43311E+01 SHOULD BE  2.89011E+01
```

5. Level density in URR not in agreement with PSYCHE's expectations
   FILE 2 / SECTION 151 / ENERGY = 7.00000E+03. STRENGTH FUNCTION IS 4.70000E-05 / DENSITY 3.42832E+01 SHOULD BE 2.88608E+01 (0): URR dens. (a)

```
FILE  2
   SECTION 151
           ENERGY =  7.00000E+03. STRENGTH FUNCTION IS  4.70000E-05
                         DENSITY  3.42832E+01 SHOULD BE  2.88608E+01
```

6. Level density in URR not in agreement with PSYCHE's expectations
   FILE 2 / SECTION 151 / ENERGY = 8.00000E+03. STRENGTH FUNCTION IS 4.70000E-05 / DENSITY 3.42355E+01 SHOULD BE 2.88206E+01 (0): URR dens. (a)

```
FILE  2
   SECTION 151
           ENERGY =  8.00000E+03. STRENGTH FUNCTION IS  4.70000E-05
                         DENSITY  3.42355E+01 SHOULD BE  2.88206E+01
```

7. Level density in URR not in agreement with PSYCHE's expectations
   FILE 2 / SECTION 151 / ENERGY = 9.00000E+03. STRENGTH FUNCTION IS 4.70000E-05 / DENSITY 3.41877E+01 SHOULD BE 2.87804E+01 (0): URR dens. (a)

```
FILE  2
   SECTION 151
           ENERGY =  9.00000E+03. STRENGTH FUNCTION IS  4.70000E-05
                         DENSITY  3.41877E+01 SHOULD BE  2.87804E+01
```

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8. Level density in URR not in agreement with PSYCHE's expectations
FILE 2 / SECTION 151 / ENERGY = 1.00000E+04. STRENGTH FUNCTION IS 4.70000E-05 / DENSITY 3.41401E+01 SHOULD BE 2.87402E+01 (0): URR dens. (a)

```
FILE  2
   SECTION 151
         ENERGY =  1.00000E+04. STRENGTH FUNCTION IS  4.70000E-05
                      DENSITY  3.41401E+01 SHOULD BE  2.87402E+01
```

9. Level density in URR not in agreement with PSYCHE's expectations
FILE 2 / SECTION 151 / ENERGY = 2.00000E+04. STRENGTH FUNCTION IS 4.70000E-05 / DENSITY 3.36672E+01 SHOULD BE 2.83421E+01 (0): URR dens. (a)

```
FILE  2
   SECTION 151
         ENERGY =  2.00000E+04. STRENGTH FUNCTION IS  4.70000E-05
                      DENSITY  3.36672E+01 SHOULD BE  2.83421E+01
```

10. Level density in URR not in agreement with PSYCHE's expectations
FILE 2 / SECTION 151 / ENERGY = 3.00000E+04. STRENGTH FUNCTION IS 4.70000E-05 / DENSITY 3.32012E+01 SHOULD BE 2.79498E+01 (0): URR dens. (a)

```
FILE  2
   SECTION 151
         ENERGY =  3.00000E+04. STRENGTH FUNCTION IS  4.70000E-05
                      DENSITY  3.32012E+01 SHOULD BE  2.79498E+01
```

11. Level density in URR not in agreement with PSYCHE's expectations
FILE 2 / SECTION 151 / ENERGY = 4.00000E+04. STRENGTH FUNCTION IS 4.70000E-05 / DENSITY 3.27419E+01 SHOULD BE 2.75632E+01 (0): URR dens. (a)

```
FILE  2
   SECTION 151
         ENERGY =  4.00000E+04. STRENGTH FUNCTION IS  4.70000E-05
                      DENSITY  3.27419E+01 SHOULD BE  2.75632E+01
```

12. Level density in URR not in agreement with PSYCHE's expectations
FILE 2 / SECTION 151 / ENERGY = 5.00000E+04. STRENGTH FUNCTION IS 4.70000E-05 / DENSITY 3.22892E+01 SHOULD BE 2.71821E+01 (0): URR dens. (a)

```
FILE  2
   SECTION 151
         ENERGY =  5.00000E+04. STRENGTH FUNCTION IS  4.70000E-05
                      DENSITY  3.22892E+01 SHOULD BE  2.71821E+01
```

13. Level density in URR not in agreement with PSYCHE's expectations
FILE 2 / SECTION 151 / ENERGY = 6.00000E+04. STRENGTH FUNCTION IS 4.70000E-05 / DENSITY 3.18431E+01 SHOULD BE 2.68066E+01 (0): URR dens. (a)

```
FILE  2
   SECTION 151
         ENERGY =  6.00000E+04. STRENGTH FUNCTION IS  4.70000E-05
                      DENSITY  3.18431E+01 SHOULD BE  2.68066E+01
```

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14. Level density in URR not in agreement with PSYCHE's expectations
FILE 2 / SECTION 151 / ENERGY = 7.00000E+04. STRENGTH FUNCTION IS 4.70000E-05 / DENSITY 3.14034E+01 SHOULD BE 2.64365E+01 (0): URR dens. (a)

```
FILE  2
   SECTION 151
            ENERGY =  7.00000E+04. STRENGTH FUNCTION IS  4.70000E-05
                          DENSITY  3.14034E+01 SHOULD BE  2.64365E+01
```

15. Level density in URR not in agreement with PSYCHE's expectations
FILE 2 / SECTION 151 / ENERGY = 8.00000E+04. STRENGTH FUNCTION IS 4.70000E-05 / DENSITY 3.09701E+01 SHOULD BE 2.60717E+01 (0): URR dens. (a)

```
FILE  2
   SECTION 151
            ENERGY =  8.00000E+04. STRENGTH FUNCTION IS  4.70000E-05
                          DENSITY  3.09701E+01 SHOULD BE  2.60717E+01
```

16. Level density in URR not in agreement with PSYCHE's expectations
FILE 2 / SECTION 151 / ENERGY = 9.00000E+04. STRENGTH FUNCTION IS 4.70000E-05 / DENSITY 3.05431E+01 SHOULD BE 2.57122E+01 (0): URR dens. (a)

```
FILE  2
   SECTION 151
            ENERGY =  9.00000E+04. STRENGTH FUNCTION IS  4.70000E-05
                          DENSITY  3.05431E+01 SHOULD BE  2.57122E+01
```

17. Level density in URR not in agreement with PSYCHE's expectations
FILE 2 / SECTION 151 / ENERGY = 1.00000E+05. STRENGTH FUNCTION IS 4.70000E-05 / DENSITY 3.01222E+01 SHOULD BE 2.53578E+01 (0): URR dens. (a)

```
FILE  2
   SECTION 151
            ENERGY =  1.00000E+05. STRENGTH FUNCTION IS  4.70000E-05
                          DENSITY  3.01222E+01 SHOULD BE  2.53578E+01
```

18. Level density in URR not in agreement with PSYCHE's expectations
FILE 2 / SECTION 151 / ENERGY = 5.00000E+03. STRENGTH FUNCTION IS 5.00000E-04 / ENERGY = 5.00000E+03. STRENGTH FUNCTION IS 5.00000E-04 / DENSITY 3.43791E+01 SHOULD BE 2.89414E+01 (0): URR dens. (a)

```
FILE  2
   SECTION 151
         ENERGY =  5.00000E+03. STRENGTH FUNCTION IS  5.00000E-04
                  ENERGY =  5.00000E+03. STRENGTH FUNCTION IS  5.00000E-04
                              DENSITY  3.43791E+01 SHOULD BE  2.89414E+01
```

19. Level density in URR not in agreement with PSYCHE's expectations
FILE 2 / SECTION 151 / ENERGY = 5.50000E+03. STRENGTH FUNCTION IS 5.00000E-04 / DENSITY 3.43551E+01 SHOULD BE 2.89212E+01 (0): URR dens. (a)

```
FILE  2
   SECTION 151
            ENERGY =  5.50000E+03. STRENGTH FUNCTION IS  5.00000E-04
                          DENSITY  3.43551E+01 SHOULD BE  2.89212E+01
```

20. Level density in URR not in agreement with PSYCHE's expectations
FILE 2 / SECTION 151 / ENERGY = 6.00000E+03. STRENGTH FUNCTION IS 5.00000E-04 / DENSITY 3.43311E+01 SHOULD BE 2.89011E+01 (0): URR dens. (a)

```
FILE  2
   SECTION 151
          ENERGY =  6.00000E+03. STRENGTH FUNCTION IS  5.00000E-04
                         DENSITY  3.43311E+01 SHOULD BE  2.89011E+01
```

21. Level density in URR not in agreement with PSYCHE's expectations
FILE 2 / SECTION 151 / ENERGY = 7.00000E+03. STRENGTH FUNCTION IS 5.00000E-04 / DENSITY 3.42832E+01 SHOULD BE 2.88608E+01 (0): URR dens. (a)

```
FILE  2
   SECTION 151
          ENERGY =  7.00000E+03. STRENGTH FUNCTION IS  5.00000E-04
                         DENSITY  3.42832E+01 SHOULD BE  2.88608E+01
```

22. Level density in URR not in agreement with PSYCHE's expectations
FILE 2 / SECTION 151 / ENERGY = 8.00000E+03. STRENGTH FUNCTION IS 5.00000E-04 / DENSITY 3.42355E+01 SHOULD BE 2.88206E+01 (0): URR dens. (a)

```
FILE  2
   SECTION 151
          ENERGY =  8.00000E+03. STRENGTH FUNCTION IS  5.00000E-04
                         DENSITY  3.42355E+01 SHOULD BE  2.88206E+01
```

23. Level density in URR not in agreement with PSYCHE's expectations
FILE 2 / SECTION 151 / ENERGY = 9.00000E+03. STRENGTH FUNCTION IS 5.00000E-04 / DENSITY 3.41877E+01 SHOULD BE 2.87804E+01 (0): URR dens. (a)

```
FILE  2
   SECTION 151
          ENERGY =  9.00000E+03. STRENGTH FUNCTION IS  5.00000E-04
                         DENSITY  3.41877E+01 SHOULD BE  2.87804E+01
```

24. Level density in URR not in agreement with PSYCHE's expectations
FILE 2 / SECTION 151 / ENERGY = 1.00000E+04. STRENGTH FUNCTION IS 5.00000E-04 / DENSITY 3.41401E+01 SHOULD BE 2.87402E+01 (0): URR dens. (a)

```
FILE  2
   SECTION 151
          ENERGY =  1.00000E+04. STRENGTH FUNCTION IS  5.00000E-04
                         DENSITY  3.41401E+01 SHOULD BE  2.87402E+01
```

25. Level density in URR not in agreement with PSYCHE's expectations
FILE 2 / SECTION 151 / ENERGY = 2.00000E+04. STRENGTH FUNCTION IS 5.00000E-04 / DENSITY 3.36672E+01 SHOULD BE 2.83421E+01 (0): URR dens. (a)

```
FILE  2
   SECTION 151
          ENERGY =  2.00000E+04. STRENGTH FUNCTION IS  5.00000E-04
                         DENSITY  3.36672E+01 SHOULD BE  2.83421E+01
```

26. Level density in URR not in agreement with PSYCHE's expectations
   FILE 2 / SECTION 151 / ENERGY = 3.00000E+04. STRENGTH FUNCTION IS 5.00000E-04 / DENSITY 3.32012E+01 SHOULD BE 2.79498E+01 (0): URR dens. (a)

```
FILE  2
   SECTION 151
         ENERGY =  3.00000E+04. STRENGTH FUNCTION IS  5.00000E-04
                        DENSITY  3.32012E+01 SHOULD BE  2.79498E+01
```

27. Level density in URR not in agreement with PSYCHE's expectations
   FILE 2 / SECTION 151 / ENERGY = 4.00000E+04. STRENGTH FUNCTION IS 5.00000E-04 / DENSITY 3.27419E+01 SHOULD BE 2.75632E+01 (0): URR dens. (a)

```
FILE  2
   SECTION 151
         ENERGY =  4.00000E+04. STRENGTH FUNCTION IS  5.00000E-04
                        DENSITY  3.27419E+01 SHOULD BE  2.75632E+01
```

28. Level density in URR not in agreement with PSYCHE's expectations
   FILE 2 / SECTION 151 / ENERGY = 5.00000E+04. STRENGTH FUNCTION IS 5.00000E-04 / DENSITY 3.22892E+01 SHOULD BE 2.71821E+01 (0): URR dens. (a)

```
FILE  2
   SECTION 151
         ENERGY =  5.00000E+04. STRENGTH FUNCTION IS  5.00000E-04
                        DENSITY  3.22892E+01 SHOULD BE  2.71821E+01
```

29. Level density in URR not in agreement with PSYCHE's expectations
   FILE 2 / SECTION 151 / ENERGY = 6.00000E+04. STRENGTH FUNCTION IS 5.00000E-04 / DENSITY 3.18431E+01 SHOULD BE 2.68066E+01 (0): URR dens. (a)

```
FILE  2
   SECTION 151
         ENERGY =  6.00000E+04. STRENGTH FUNCTION IS  5.00000E-04
                        DENSITY  3.18431E+01 SHOULD BE  2.68066E+01
```

30. Level density in URR not in agreement with PSYCHE's expectations
   FILE 2 / SECTION 151 / ENERGY = 7.00000E+04. STRENGTH FUNCTION IS 5.00000E-04 / DENSITY 3.14034E+01 SHOULD BE 2.64365E+01 (0): URR dens. (a)

```
FILE  2
   SECTION 151
         ENERGY =  7.00000E+04. STRENGTH FUNCTION IS  5.00000E-04
                        DENSITY  3.14034E+01 SHOULD BE  2.64365E+01
```

31. Level density in URR not in agreement with PSYCHE's expectations
   FILE 2 / SECTION 151 / ENERGY = 8.00000E+04. STRENGTH FUNCTION IS 5.00000E-04 / DENSITY 3.09701E+01 SHOULD BE 2.60717E+01 (0): URR dens. (a)

```
FILE  2
   SECTION 151
         ENERGY =  8.00000E+04. STRENGTH FUNCTION IS  5.00000E-04
                        DENSITY  3.09701E+01 SHOULD BE  2.60717E+01
```

32. Level density in URR not in agreement with PSYCHE's expectations
FILE 2 / SECTION 151 / ENERGY = 9.00000E+04. STRENGTH FUNCTION IS 5.00000E-04 / DENSITY 3.05431E+01 SHOULD BE 2.57122E+01 (0): URR dens. (a)

```
FILE  2
    SECTION 151
            ENERGY =  9.00000E+04. STRENGTH FUNCTION IS  5.00000E-04
                            DENSITY  3.05431E+01 SHOULD BE  2.57122E+01
```

33. Level density in URR not in agreement with PSYCHE's expectations
FILE 2 / SECTION 151 / ENERGY = 1.00000E+05. STRENGTH FUNCTION IS 5.00000E-04 / DENSITY 3.01222E+01 SHOULD BE 2.53578E+01 (0): URR dens. (a)

```
FILE  2
    SECTION 151
            ENERGY =  1.00000E+05. STRENGTH FUNCTION IS  5.00000E-04
                            DENSITY  3.01222E+01 SHOULD BE  2.53578E+01
```

34. Level density in URR not in agreement with PSYCHE's expectations
FILE 2 / SECTION 151 / ENERGY = 5.00000E+03. STRENGTH FUNCTION IS 5.00000E-04 / ENERGY = 5.00000E+03. STRENGTH FUNCTION IS 5.00000E-04 / DENSITY 2.91067E+01 SHOULD BE 1.73649E+01 (0): URR dens. (a)

```
FILE  2
    SECTION 151
          ENERGY =  5.00000E+03. STRENGTH FUNCTION IS  5.00000E-04
                    ENERGY =  5.00000E+03. STRENGTH FUNCTION IS  5.00000E-04
                            DENSITY  2.91067E+01 SHOULD BE  1.73649E+01
```

35. Level density in URR not in agreement with PSYCHE's expectations
FILE 2 / SECTION 151 / ENERGY = 5.50000E+03. STRENGTH FUNCTION IS 5.00000E-04 / DENSITY 2.90864E+01 SHOULD BE 1.73527E+01 (0): URR dens. (a)

```
FILE  2
    SECTION 151
            ENERGY =  5.50000E+03. STRENGTH FUNCTION IS  5.00000E-04
                            DENSITY  2.90864E+01 SHOULD BE  1.73527E+01
```

36. Level density in URR not in agreement with PSYCHE's expectations
FILE 2 / SECTION 151 / ENERGY = 6.00000E+03. STRENGTH FUNCTION IS 5.00000E-04 / DENSITY 2.90661E+01 SHOULD BE 1.73406E+01 (0): URR dens. (a)

```
FILE  2
    SECTION 151
            ENERGY =  6.00000E+03. STRENGTH FUNCTION IS  5.00000E-04
                            DENSITY  2.90661E+01 SHOULD BE  1.73406E+01
```

37. Level density in URR not in agreement with PSYCHE's expectations
FILE 2 / SECTION 151 / ENERGY = 7.00000E+03. STRENGTH FUNCTION IS 5.00000E-04 / DENSITY 2.90256E+01 SHOULD BE 1.73165E+01 (0): URR dens. (a)

```
FILE  2
    SECTION 151
            ENERGY =  7.00000E+03. STRENGTH FUNCTION IS  5.00000E-04
                            DENSITY  2.90256E+01 SHOULD BE  1.73165E+01
```

38. Level density in URR not in agreement with PSYCHE's expectations
    FILE 2 / SECTION 151 / ENERGY = 8.00000E+03. STRENGTH FUNCTION IS 5.00000E-04 / DENSITY 2.89851E+01 SHOULD BE 1.72923E+01 (0): URR dens. (a)

```
FILE  2
   SECTION 151
         ENERGY =  8.00000E+03. STRENGTH FUNCTION IS  5.00000E-04
                        DENSITY  2.89851E+01 SHOULD BE  1.72923E+01
```

39. Level density in URR not in agreement with PSYCHE's expectations
    FILE 2 / SECTION 151 / ENERGY = 9.00000E+03. STRENGTH FUNCTION IS 5.00000E-04 / DENSITY 2.89447E+01 SHOULD BE 1.72682E+01 (0): URR dens. (a)

```
FILE  2
   SECTION 151
         ENERGY =  9.00000E+03. STRENGTH FUNCTION IS  5.00000E-04
                        DENSITY  2.89447E+01 SHOULD BE  1.72682E+01
```

40. Level density in URR not in agreement with PSYCHE's expectations
    FILE 2 / SECTION 151 / ENERGY = 1.00000E+04. STRENGTH FUNCTION IS 5.00000E-04 / DENSITY 2.89044E+01 SHOULD BE 1.72441E+01 (0): URR dens. (a)

```
FILE  2
   SECTION 151
         ENERGY =  1.00000E+04. STRENGTH FUNCTION IS  5.00000E-04
                        DENSITY  2.89044E+01 SHOULD BE  1.72441E+01
```

41. Level density in URR not in agreement with PSYCHE's expectations
    FILE 2 / SECTION 151 / ENERGY = 2.00000E+04. STRENGTH FUNCTION IS 5.00000E-04 / DENSITY 2.85040E+01 SHOULD BE 1.70053E+01 (0): URR dens. (a)

```
FILE  2
   SECTION 151
         ENERGY =  2.00000E+04. STRENGTH FUNCTION IS  5.00000E-04
                        DENSITY  2.85040E+01 SHOULD BE  1.70053E+01
```

42. Level density in URR not in agreement with PSYCHE's expectations
    FILE 2 / SECTION 151 / ENERGY = 3.00000E+04. STRENGTH FUNCTION IS 5.00000E-04 / DENSITY 2.81094E+01 SHOULD BE 1.67699E+01 (0): URR dens. (a)

```
FILE  2
   SECTION 151
         ENERGY =  3.00000E+04. STRENGTH FUNCTION IS  5.00000E-04
                        DENSITY  2.81094E+01 SHOULD BE  1.67699E+01
```

43. Level density in URR not in agreement with PSYCHE's expectations
    FILE 2 / SECTION 151 / ENERGY = 4.00000E+04. STRENGTH FUNCTION IS 5.00000E-04 / DENSITY 2.77206E+01 SHOULD BE 1.65379E+01 (0): URR dens. (a)

```
FILE  2
   SECTION 151
         ENERGY =  4.00000E+04. STRENGTH FUNCTION IS  5.00000E-04
                        DENSITY  2.77206E+01 SHOULD BE  1.65379E+01
```

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44. Level density in URR not in agreement with PSYCHE's expectations
FILE 2 / SECTION 151 / ENERGY = 5.00000E+04. STRENGTH FUNCTION IS 5.00000E-04 / DENSITY 2.73374E+01 SHOULD BE 1.63093E+01 (0): URR dens. (a)

```
FILE  2
    SECTION 151
          ENERGY =  5.00000E+04. STRENGTH FUNCTION IS  5.00000E-04
                        DENSITY  2.73374E+01 SHOULD BE  1.63093E+01
```

45. Level density in URR not in agreement with PSYCHE's expectations
FILE 2 / SECTION 151 / ENERGY = 6.00000E+04. STRENGTH FUNCTION IS 5.00000E-04 / DENSITY 2.69597E+01 SHOULD BE 1.60840E+01 (0): URR dens. (a)

```
FILE  2
    SECTION 151
          ENERGY =  6.00000E+04. STRENGTH FUNCTION IS  5.00000E-04
                        DENSITY  2.69597E+01 SHOULD BE  1.60840E+01
```

46. Level density in URR not in agreement with PSYCHE's expectations
FILE 2 / SECTION 151 / ENERGY = 7.00000E+04. STRENGTH FUNCTION IS 5.00000E-04 / DENSITY 2.65874E+01 SHOULD BE 1.58619E+01 (0): URR dens. (a)

```
FILE  2
    SECTION 151
          ENERGY =  7.00000E+04. STRENGTH FUNCTION IS  5.00000E-04
                        DENSITY  2.65874E+01 SHOULD BE  1.58619E+01
```

47. Level density in URR not in agreement with PSYCHE's expectations
FILE 2 / SECTION 151 / ENERGY = 8.00000E+04. STRENGTH FUNCTION IS 5.00000E-04 / DENSITY 2.62206E+01 SHOULD BE 1.56430E+01 (0): URR dens. (a)

```
FILE  2
    SECTION 151
          ENERGY =  8.00000E+04. STRENGTH FUNCTION IS  5.00000E-04
                        DENSITY  2.62206E+01 SHOULD BE  1.56430E+01
```

48. Level density in URR not in agreement with PSYCHE's expectations
FILE 2 / SECTION 151 / ENERGY = 9.00000E+04. STRENGTH FUNCTION IS 5.00000E-04 / DENSITY 2.58590E+01 SHOULD BE 1.54273E+01 (0): URR dens. (a)

```
FILE  2
    SECTION 151
          ENERGY =  9.00000E+04. STRENGTH FUNCTION IS  5.00000E-04
                        DENSITY  2.58590E+01 SHOULD BE  1.54273E+01
```

49. Level density in URR not in agreement with PSYCHE's expectations
FILE 2 / SECTION 151 / ENERGY = 1.00000E+05. STRENGTH FUNCTION IS 5.00000E-04 / DENSITY 2.55026E+01 SHOULD BE 1.52147E+01 (0): URR dens. (a)

```
FILE  2
    SECTION 151
          ENERGY =  1.00000E+05. STRENGTH FUNCTION IS  5.00000E-04
                        DENSITY  2.55026E+01 SHOULD BE  1.52147E+01
```

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50. Level density in URR not in agreement with PSYCHE's expectations
FILE 2 / SECTION 151 / ENERGY = 5.00000E+03. STRENGTH FUNCTION IS 5.00000E-05 / ENERGY = 5.00000E+03. STRENGTH FUNCTION IS 5.00000E-05 / DENSITY 2.91067E+01 SHOULD BE 2.06274E+01 (0): URR dens. (a)

```
FILE  2
   SECTION 151
         ENERGY =  5.00000E+03. STRENGTH FUNCTION IS  5.00000E-05
                   ENERGY =  5.00000E+03. STRENGTH FUNCTION IS  5.00000E-05
                             DENSITY  2.91067E+01 SHOULD BE  2.06274E+01
```

51. Level density in URR not in agreement with PSYCHE's expectations
FILE 2 / SECTION 151 / ENERGY = 5.50000E+03. STRENGTH FUNCTION IS 5.00000E-05 / DENSITY 2.90864E+01 SHOULD BE 2.06130E+01 (0): URR dens. (a)

```
FILE  2
   SECTION 151
           ENERGY =  5.50000E+03. STRENGTH FUNCTION IS  5.00000E-05
                     DENSITY  2.90864E+01 SHOULD BE  2.06130E+01
```

52. Level density in URR not in agreement with PSYCHE's expectations
FILE 2 / SECTION 151 / ENERGY = 6.00000E+03. STRENGTH FUNCTION IS 5.00000E-05 / DENSITY 2.90661E+01 SHOULD BE 2.05987E+01 (0): URR dens. (a)

```
FILE  2
   SECTION 151
           ENERGY =  6.00000E+03. STRENGTH FUNCTION IS  5.00000E-05
                     DENSITY  2.90661E+01 SHOULD BE  2.05987E+01
```

53. Level density in URR not in agreement with PSYCHE's expectations
FILE 2 / SECTION 151 / ENERGY = 7.00000E+03. STRENGTH FUNCTION IS 5.00000E-05 / DENSITY 2.90256E+01 SHOULD BE 2.05699E+01 (0): URR dens. (a)

```
FILE  2
   SECTION 151
           ENERGY =  7.00000E+03. STRENGTH FUNCTION IS  5.00000E-05
                     DENSITY  2.90256E+01 SHOULD BE  2.05699E+01
```

54. Level density in URR not in agreement with PSYCHE's expectations
FILE 2 / SECTION 151 / ENERGY = 8.00000E+03. STRENGTH FUNCTION IS 5.00000E-05 / DENSITY 2.89851E+01 SHOULD BE 2.05413E+01 (0): URR dens. (a)

```
FILE  2
   SECTION 151
           ENERGY =  8.00000E+03. STRENGTH FUNCTION IS  5.00000E-05
                     DENSITY  2.89851E+01 SHOULD BE  2.05413E+01
```

55. Level density in URR not in agreement with PSYCHE's expectations
FILE 2 / SECTION 151 / ENERGY = 9.00000E+03. STRENGTH FUNCTION IS 5.00000E-05 / DENSITY 2.89447E+01 SHOULD BE 2.05126E+01 (0): URR dens. (a)

```
FILE  2
   SECTION 151
           ENERGY =  9.00000E+03. STRENGTH FUNCTION IS  5.00000E-05
                     DENSITY  2.89447E+01 SHOULD BE  2.05126E+01
```

56. Level density in URR not in agreement with PSYCHE's expectations
FILE 2 / SECTION 151 / ENERGY = 1.00000E+04. STRENGTH FUNCTION IS 5.00000E-05 / DENSITY 2.89044E+01 SHOULD BE 2.04840E+01 (0): URR dens. (a)

```
FILE  2
    SECTION 151
            ENERGY =  1.00000E+04. STRENGTH FUNCTION IS  5.00000E-05
                          DENSITY  2.89044E+01 SHOULD BE  2.04840E+01
```

57. Level density in URR not in agreement with PSYCHE's expectations
FILE 2 / SECTION 151 / ENERGY = 2.00000E+04. STRENGTH FUNCTION IS 5.00000E-05 / DENSITY 2.85040E+01 SHOULD BE 2.02003E+01 (0): URR dens. (a)

```
FILE  2
    SECTION 151
            ENERGY =  2.00000E+04. STRENGTH FUNCTION IS  5.00000E-05
                          DENSITY  2.85040E+01 SHOULD BE  2.02003E+01
```

58. Level density in URR not in agreement with PSYCHE's expectations
FILE 2 / SECTION 151 / ENERGY = 3.00000E+04. STRENGTH FUNCTION IS 5.00000E-05 / DENSITY 2.81094E+01 SHOULD BE 1.99207E+01 (0): URR dens. (a)

```
FILE  2
    SECTION 151
            ENERGY =  3.00000E+04. STRENGTH FUNCTION IS  5.00000E-05
                          DENSITY  2.81094E+01 SHOULD BE  1.99207E+01
```

59. Level density in URR not in agreement with PSYCHE's expectations
FILE 2 / SECTION 151 / ENERGY = 4.00000E+04. STRENGTH FUNCTION IS 5.00000E-05 / DENSITY 2.77206E+01 SHOULD BE 1.96451E+01 (0): URR dens. (a)

```
FILE  2
    SECTION 151
            ENERGY =  4.00000E+04. STRENGTH FUNCTION IS  5.00000E-05
                          DENSITY  2.77206E+01 SHOULD BE  1.96451E+01
```

60. Level density in URR not in agreement with PSYCHE's expectations
FILE 2 / SECTION 151 / ENERGY = 5.00000E+04. STRENGTH FUNCTION IS 5.00000E-05 / DENSITY 2.73374E+01 SHOULD BE 1.93735E+01 (0): URR dens. (a)

```
FILE  2
    SECTION 151
            ENERGY =  5.00000E+04. STRENGTH FUNCTION IS  5.00000E-05
                          DENSITY  2.73374E+01 SHOULD BE  1.93735E+01
```

61. Level density in URR not in agreement with PSYCHE's expectations
FILE 2 / SECTION 151 / ENERGY = 6.00000E+04. STRENGTH FUNCTION IS 5.00000E-05 / DENSITY 2.69597E+01 SHOULD BE 1.91059E+01 (0): URR dens. (a)

```
FILE  2
    SECTION 151
            ENERGY =  6.00000E+04. STRENGTH FUNCTION IS  5.00000E-05
                          DENSITY  2.69597E+01 SHOULD BE  1.91059E+01
```

62. Level density in URR not in agreement with PSYCHE's expectations
FILE 2 / SECTION 151 / ENERGY = 7.00000E+04. STRENGTH FUNCTION IS 5.00000E-05 / DENSITY 2.65874E+01 SHOULD BE 1.88421E+01 (0): URR dens. (a)

```
FILE  2
   SECTION 151
          ENERGY =  7.00000E+04. STRENGTH FUNCTION IS  5.00000E-05
                        DENSITY  2.65874E+01 SHOULD BE  1.88421E+01
```

63. Level density in URR not in agreement with PSYCHE's expectations
FILE 2 / SECTION 151 / ENERGY = 8.00000E+04. STRENGTH FUNCTION IS 5.00000E-05 / DENSITY 2.62206E+01 SHOULD BE 1.85821E+01 (0): URR dens. (a)

```
FILE  2
   SECTION 151
          ENERGY =  8.00000E+04. STRENGTH FUNCTION IS  5.00000E-05
                        DENSITY  2.62206E+01 SHOULD BE  1.85821E+01
```

64. Level density in URR not in agreement with PSYCHE's expectations
FILE 2 / SECTION 151 / ENERGY = 9.00000E+04. STRENGTH FUNCTION IS 5.00000E-05 / DENSITY 2.58590E+01 SHOULD BE 1.83258E+01 (0): URR dens. (a)

```
FILE  2
   SECTION 151
          ENERGY =  9.00000E+04. STRENGTH FUNCTION IS  5.00000E-05
                        DENSITY  2.58590E+01 SHOULD BE  1.83258E+01
```

65. Level density in URR not in agreement with PSYCHE's expectations
FILE 2 / SECTION 151 / ENERGY = 1.00000E+05. STRENGTH FUNCTION IS 5.00000E-05 / DENSITY 2.55026E+01 SHOULD BE 1.80733E+01 (0): URR dens. (a)

```
FILE  2
   SECTION 151
          ENERGY =  1.00000E+05. STRENGTH FUNCTION IS  5.00000E-05
                        DENSITY  2.55026E+01 SHOULD BE  1.80733E+01
```

66. Level density in URR not in agreement with PSYCHE's expectations
FILE 2 / SECTION 151 / ENERGY = 5.00000E+03. STRENGTH FUNCTION IS 5.00000E-05 / ENERGY = 5.00000E+03. STRENGTH FUNCTION IS 5.00000E-05 / DENSITY 3.48487E+01 SHOULD BE 1.47339E+01 (0): URR dens. (a)

```
FILE  2
   SECTION 151
         ENERGY =  5.00000E+03. STRENGTH FUNCTION IS  5.00000E-05
                  ENERGY =  5.00000E+03. STRENGTH FUNCTION IS  5.00000E-05
                              DENSITY  3.48487E+01 SHOULD BE  1.47339E+01
```

67. Level density in URR not in agreement with PSYCHE's expectations
FILE 2 / SECTION 151 / ENERGY = 5.50000E+03. STRENGTH FUNCTION IS 5.00000E-05 / DENSITY 3.48244E+01 SHOULD BE 1.47236E+01 (0): URR dens. (a)

```
FILE  2
   SECTION 151
          ENERGY =  5.50000E+03. STRENGTH FUNCTION IS  5.00000E-05
                        DENSITY  3.48244E+01 SHOULD BE  1.47236E+01
```

68. Level density in URR not in agreement with PSYCHE's expectations
FILE 2 / SECTION 151 / ENERGY = 6.00000E+03. STRENGTH FUNCTION IS 5.00000E-05 / DENSITY 3.48001E+01 SHOULD BE 1.47133E+01 (0): URR dens. (a)

```
FILE  2
   SECTION 151
          ENERGY =  6.00000E+03. STRENGTH FUNCTION IS  5.00000E-05
                        DENSITY  3.48001E+01 SHOULD BE  1.47133E+01
```

69. Level density in URR not in agreement with PSYCHE's expectations
FILE 2 / SECTION 151 / ENERGY = 7.00000E+03. STRENGTH FUNCTION IS 5.00000E-05 / DENSITY 3.47516E+01 SHOULD BE 1.46928E+01 (0): URR dens. (a)

```
FILE  2
   SECTION 151
          ENERGY =  7.00000E+03. STRENGTH FUNCTION IS  5.00000E-05
                        DENSITY  3.47516E+01 SHOULD BE  1.46928E+01
```

70. Level density in URR not in agreement with PSYCHE's expectations
FILE 2 / SECTION 151 / ENERGY = 8.00000E+03. STRENGTH FUNCTION IS 5.00000E-05 / DENSITY 3.47032E+01 SHOULD BE 1.46724E+01 (0): URR dens. (a)

```
FILE  2
   SECTION 151
          ENERGY =  8.00000E+03. STRENGTH FUNCTION IS  5.00000E-05
                        DENSITY  3.47032E+01 SHOULD BE  1.46724E+01
```

71. Level density in URR not in agreement with PSYCHE's expectations
FILE 2 / SECTION 151 / ENERGY = 9.00000E+03. STRENGTH FUNCTION IS 5.00000E-05 / DENSITY 3.46548E+01 SHOULD BE 1.46519E+01 (0): URR dens. (a)

```
FILE  2
   SECTION 151
          ENERGY =  9.00000E+03. STRENGTH FUNCTION IS  5.00000E-05
                        DENSITY  3.46548E+01 SHOULD BE  1.46519E+01
```

72. Level density in URR not in agreement with PSYCHE's expectations
FILE 2 / SECTION 151 / ENERGY = 1.00000E+04. STRENGTH FUNCTION IS 5.00000E-05 / DENSITY 3.46065E+01 SHOULD BE 1.46315E+01 (0): URR dens. (a)

```
FILE  2
   SECTION 151
          ENERGY =  1.00000E+04. STRENGTH FUNCTION IS  5.00000E-05
                        DENSITY  3.46065E+01 SHOULD BE  1.46315E+01
```

73. Level density in URR not in agreement with PSYCHE's expectations
FILE 2 / SECTION 151 / ENERGY = 2.00000E+04. STRENGTH FUNCTION IS 5.00000E-05 / DENSITY 3.41271E+01 SHOULD BE 1.44288E+01 (0): URR dens. (a)

```
FILE  2
   SECTION 151
          ENERGY =  2.00000E+04. STRENGTH FUNCTION IS  5.00000E-05
                        DENSITY  3.41271E+01 SHOULD BE  1.44288E+01
```

21

74. Level density in URR not in agreement with PSYCHE's expectations
    FILE 2 / SECTION 151 / ENERGY = 3.00000E+04. STRENGTH FUNCTION IS 5.00000E-05 / DENSITY 3.36547E+01 SHOULD BE 1.42291E+01 (0): URR dens. (a)

```
FILE  2
   SECTION 151
          ENERGY =  3.00000E+04. STRENGTH FUNCTION IS  5.00000E-05
                         DENSITY  3.36547E+01 SHOULD BE  1.42291E+01
```

75. Level density in URR not in agreement with PSYCHE's expectations
    FILE 2 / SECTION 151 / ENERGY = 4.00000E+04. STRENGTH FUNCTION IS 5.00000E-05 / DENSITY 3.31892E+01 SHOULD BE 1.40322E+01 (0): URR dens. (a)

```
FILE  2
   SECTION 151
          ENERGY =  4.00000E+04. STRENGTH FUNCTION IS  5.00000E-05
                         DENSITY  3.31892E+01 SHOULD BE  1.40322E+01
```

76. Level density in URR not in agreement with PSYCHE's expectations
    FILE 2 / SECTION 151 / ENERGY = 5.00000E+04. STRENGTH FUNCTION IS 5.00000E-05 / DENSITY 3.27303E+01 SHOULD BE 1.38382E+01 (0): URR dens. (a)

```
FILE  2
   SECTION 151
          ENERGY =  5.00000E+04. STRENGTH FUNCTION IS  5.00000E-05
                         DENSITY  3.27303E+01 SHOULD BE  1.38382E+01
```

77. Level density in URR not in agreement with PSYCHE's expectations
    FILE 2 / SECTION 151 / ENERGY = 6.00000E+04. STRENGTH FUNCTION IS 5.00000E-05 / DENSITY 3.22781E+01 SHOULD BE 1.36471E+01 (0): URR dens. (a)

```
FILE  2
   SECTION 151
          ENERGY =  6.00000E+04. STRENGTH FUNCTION IS  5.00000E-05
                         DENSITY  3.22781E+01 SHOULD BE  1.36471E+01
```

78. Level density in URR not in agreement with PSYCHE's expectations
    FILE 2 / SECTION 151 / ENERGY = 7.00000E+04. STRENGTH FUNCTION IS 5.00000E-05 / DENSITY 3.18324E+01 SHOULD BE 1.34586E+01 (0): URR dens. (a)

```
FILE  2
   SECTION 151
          ENERGY =  7.00000E+04. STRENGTH FUNCTION IS  5.00000E-05
                         DENSITY  3.18324E+01 SHOULD BE  1.34586E+01
```

79. Level density in URR not in agreement with PSYCHE's expectations
    FILE 2 / SECTION 151 / ENERGY = 8.00000E+04. STRENGTH FUNCTION IS 5.00000E-05 / DENSITY 3.13932E+01 SHOULD BE 1.32729E+01 (0): URR dens. (a)

```
FILE  2
   SECTION 151
          ENERGY =  8.00000E+04. STRENGTH FUNCTION IS  5.00000E-05
                         DENSITY  3.13932E+01 SHOULD BE  1.32729E+01
```

80. Level density in URR not in agreement with PSYCHE's expectations
FILE 2 / SECTION 151 / ENERGY = 9.00000E+04. STRENGTH FUNCTION IS 5.00000E-05 / DENSITY 3.09603E+01 SHOULD BE 1.30899E+01 (0): URR dens. (a)

```
FILE  2
   SECTION 151
           ENERGY =  9.00000E+04. STRENGTH FUNCTION IS  5.00000E-05
                          DENSITY  3.09603E+01 SHOULD BE  1.30899E+01
```

81. Level density in URR not in agreement with PSYCHE's expectations
FILE 2 / SECTION 151 / ENERGY = 1.00000E+05. STRENGTH FUNCTION IS 5.00000E-05 / DENSITY 3.05337E+01 SHOULD BE 1.29095E+01 (0): URR dens. (a)

```
FILE  2
   SECTION 151
           ENERGY =  1.00000E+05. STRENGTH FUNCTION IS  5.00000E-05
                          DENSITY  3.05337E+01 SHOULD BE  1.29095E+01
```

- `recent` Warnings:

  1. Statistical weight of certain L values were incorrect
  0: RRR goof (a)

```
Calculate Cross Sections from Resonance Parameters (RECENT 2015-1)
=============================================================================
Retrieval Criteria-----------        MAT
File 2 Mimimum Cross Section- 1.0000E-10 (Standard Option)
Reactions with No Background-    Output (Resonance Contribution)
... [671 more lines]
```

- `fudge-4.0` Errors:

  1. The spin statistical weights are off, indicating missing channels
  resonances / resolved / MultiLevel_BreitWigner (Error # 0): badSpinStatisticalWeights

```
WARNING: The spin statical weights for L=1 sums to 2.25, but should sum to 3.0.  You have too few channels for r
```

  2. Calculated and tabulated Q values disagree.
  reaction label 23: n[multiplicity:'2'] + Cd112 (Error # 0): Q mismatch

```
WARNING: Calculated and tabulated Q-values disagree: -10766865.79428101 eV vs -6539801. eV!
```

  3. Calculated and tabulated Q values disagree.
  reaction label 24: n[multiplicity:'3'] + Cd111 (Error # 0): Q mismatch

```
WARNING: Calculated and tabulated Q-values disagree: -20161182.35569763 eV vs -1.5938e7 eV!
```

  4. Calculated and tabulated Q values disagree.
  reaction label 25: n + H1 + Ag112 (Error # 0): Q mismatch

```
WARNING: Calculated and tabulated Q-values disagree: -13940579.0305481 eV vs -9714401. eV!
```

  5. Calculated and tabulated Q values disagree.
  reaction label 26: Cd114 + gamma (Error # 0): Q mismatch

```
WARNING: Calculated and tabulated Q-values disagree: 4816191.714309692 eV vs 9042701. eV!
```

6. Calculated and tabulated Q values disagree.
   reaction label 27: n + He4 + Pd109 (Error # 0): Q mismatch

```
WARNING: Calculated and tabulated Q-values disagree: -8094391.12550354 eV vs -3.8696e6 eV!
```

7. Calculated and tabulated Q values disagree.
   reaction label 28: H1 + Ag113_s (Error # 0): Q mismatch

```
WARNING: Calculated and tabulated Q-values disagree: -5461048.307403564 eV vs -1.2269e6 eV!
```

8. Calculated and tabulated Q values disagree.
   reaction label 29: H2 + Ag112_s (Error # 0): Q mismatch

```
WARNING: Calculated and tabulated Q-values disagree: -11716012.92961121 eV vs -7489901. eV!
```

9. Calculated and tabulated Q values disagree.
   reaction label 30: H3 + Ag111_s (Error # 0): Q mismatch

```
WARNING: Calculated and tabulated Q-values disagree: -11933836.12435913 eV vs -7711101. eV!
```

10. Calculated and tabulated Q values disagree.
    reaction label 31: He4 + Pd110_s (Error # 0): Q mismatch

```
WARNING: Calculated and tabulated Q-values disagree: 719510.5637359619 eV vs 4942101. eV!
```

- `njoy2012` Warnings:

  1. With the advent of the ENDF-6 format, it is possible to make evaluations that fully describe all the products of a nuclear reaction. Some carry-over evaluations from earlier ENDF/B versions also have this capability, but many do not. This message is intended to goad evaluators to improve things!
     groupr...compute self-shielded group-averaged cross-sections (0): GROUPR/conver (0)

```
 ---message from conver---cannot do complete particle production for mt= 16
                         only mf4/mf5 provided
```

  2. With the advent of the ENDF-6 format, it is possible to make evaluations that fully describe all the products of a nuclear reaction. Some carry-over evaluations from earlier ENDF/B versions also have this capability, but many do not. This message is intended to goad evaluators to improve things!
     groupr...compute self-shielded group-averaged cross-sections (1): GROUPR/conver (0)

```
 ---message from conver---cannot do complete particle production for mt= 17
                         only mf4/mf5 provided
```

  3. With the advent of the ENDF-6 format, it is possible to make evaluations that fully describe all the products of a nuclear reaction. Some carry-over evaluations from earlier ENDF/B versions also have this capability, but many do not. This message is intended to goad evaluators to improve things!
     groupr...compute self-shielded group-averaged cross-sections (2): GROUPR/conver (0)

```
 ---message from conver---cannot do complete particle production for mt= 22
                         only mf4/mf5 provided
```

4. With the advent of the ENDF-6 format, it is possible to make evaluations that fully describe all the products of a nuclear reaction. Some carry-over evaluations from earlier ENDF/B versions also have this capability, but many do not. This message is intended to goad evaluators to improve things!
   groupr...compute self-shielded group-averaged cross-sections (3): GROUPR/conver (0)

   ```
    ---message from conver---cannot do complete particle production for mt= 28
                            only mf4/mf5 provided
   ```

5. With the advent of the ENDF-6 format, it is possible to make evaluations that fully describe all the products of a nuclear reaction. Some carry-over evaluations from earlier ENDF/B versions also have this capability, but many do not. This message is intended to goad evaluators to improve things!
   groupr...compute self-shielded group-averaged cross-sections (4): GROUPR/conver (0)

   ```
    ---message from conver---cannot do complete particle production for mt= 91
                            only mf4/mf5 provided
   ```